

# Unit 6 Lesson 4A Practice

Complete all odds. Answer in radians.

In Exercises 11–24, find all solutions of each equation.

11.  $\sin x = \frac{\sqrt{3}}{2}$

12.  $\cos x = \frac{\sqrt{3}}{2}$

13.  $\tan x = 1$

14.  $\tan x = \sqrt{3}$

15.  $\cos x = -\frac{1}{2}$

16.  $\sin x = -\frac{\sqrt{2}}{2}$

17.  $\tan x = 0$

18.  $\sin x = 0$

19.  $2 \cos x + \sqrt{3} = 0$

20.  $2 \sin x + \sqrt{3} = 0$

21.  $4 \sin \theta - 1 = 2 \sin \theta$

22.  $5 \sin \theta + 1 = 3 \sin \theta$

23.  $3 \sin \theta + 5 = -2 \sin \theta$

24.  $7 \cos \theta + 9 = -2 \cos \theta$

Exercises 25–38 involve equations with multiple angles. Solve each equation on the interval  $[0, 2\pi)$ .

25.  $\sin 2x = \frac{\sqrt{3}}{2}$

26.  $\cos 2x = \frac{\sqrt{2}}{2}$

27.  $\cos 4x = -\frac{\sqrt{3}}{2}$

28.  $\sin 4x = -\frac{\sqrt{2}}{2}$

29.  $\tan 3x = \frac{\sqrt{3}}{3}$

30.  $\tan 3x = \sqrt{3}$

31.  $\tan \frac{x}{2} = \sqrt{3}$

32.  $\tan \frac{x}{2} = \frac{\sqrt{3}}{3}$

33.  $\sin \frac{2\theta}{3} = -1$

34.  $\cos \frac{2\theta}{3} = -1$

35.  $\sec \frac{3\theta}{2} = -2$

36.  $\cot \frac{3\theta}{2} = -\sqrt{3}$

37.  $\sin\left(2x + \frac{\pi}{6}\right) = \frac{1}{2}$

38.  $\sin\left(2x - \frac{\pi}{4}\right) = \frac{\sqrt{2}}{2}$